

REMARKS

Claims 39-42, 44-58, and 60-70 were presented for examination in the present application. The instant amendment cancels claims 40-42, 44, and 58 without prejudice and adds new claims 71 and 72. Thus, claims 39, 45-57, and 60-72 are presented for consideration upon entry of the instant amendment.

Claims 56-58, 60-64, 67-68, and 70 were rejected under 35 U.S.C. §101. Independent claim 56 has been amended to obviate this rejection. Specifically, independent claim 56 now recites the tangible result of determining the gloss, haze, and distinctness of image based on the signal. As such, independent claim 56, as well as claims 57-58, 60-64, 67-68, and 70 that depend therefrom, are directed to statutory subject matter. Reconsideration and withdrawal of the section 101 rejections are respectfully requested.

Claims 39-42, 44-58, and 60-70 were rejected under 35 U.S.C. §112, first paragraph. The claims have been amended to obviate this rejection. Specifically, independent claims 39 and 56 have been amended to remove the objected element of nightlight spectrum. Reconsideration and withdrawal of the section 112, first paragraph rejections are respectfully requested.

Independent claims 39 and 56, as well as dependent claims 40-42, 44-45, 49-50, 52, 54, 58, 60, 64, 66, and 68, were rejected under 35 U.S.C. §103 over U.S. Patent No. 4,917,495 to Steenhoek (Steenhoek). Additionally, dependent claims 46-48, 51, 53, 55, 57, 61-63, 65, 67, and 69-70 were rejected under 35 U.S.C. §103 over Steenhoek in view of one or more of U.S. Patent Nos. 5,619,427 to Ohkubo (Ohkubo), 4,918,321 to Klenk (Klenk), 5,596,412 to Lex (Lex), 6,163,038 to Chen (Chen), and 5,268,749 to Weber.

Independent claim 39 has been clarified and, thus, is now directed to a device for making quantified determinations of characteristic parameters of a surface, the

characteristic parameters being selected from the group consisting of gloss, haze, and distinctness of image. Similarly, independent claim 56 is now directed to a method for making quantified determinations of the gloss, haze, and distinctness of image of a surface.

Applicants respectfully submit that the cited art does not disclose or suggest making quantified determinations of the gloss, haze, and distinctness of image as recited by claims 39 and 56. Rather, Steenhoek discloses a colorimeter used for the characterization of colored surfaces. See col. 1, lines 6-10.

Applicants submit that colorimeters, as in Steenhoek, are based on a different measurement principle than the quantified determinations of the gloss, haze, and distinctness of image recited by claims 39 and 56.

For example, in a device for determining gloss, haze and distinctness of image it is important to determine the amount of light that has been reflected by the surface. For this purpose, claims 39 and 56 now recite that the predetermined angles of incidence and reflection are "mirror symmetrical to each other with respect to the surface". In this manner, the photo sensor receives the light beam which is reflected along the angle of reflection.

In contrast, Steenhoek discloses a device for determining the color of a surface by determining the spectrum of the light that is emitted by an illuminated surface, and not the reflected light. Therefore, the monochromator and light source of Steenhoek simply cannot be arranged "mirror symmetrical to each other with respect to the surface" as recited by claims 39 and 56. More specifically, Applicants submit that arrangement of the monochromator of Steenhoek in the manner claimed would result in determining the spectrum of the reflected light, but not the spectrum of the color of the surface as is the purpose of Steenhoek.

Clearly, Steenhoek does not disclose or suggest present claims 39 and 56. Moreover, Applicants submit that the proposed combinations of Steenhoek with one or more of Weber, Ohkubo, Klenk, Lex, and Chen do not disclose or suggest present claims 39 and 56.

Weber only discloses the use of scatter disk for homogenizing the light emitted by a light source being provided with a filament for emitting light. Ohkubo only discloses a method for converting actual color signals. Klenk only discloses the use of strips of light to illuminate a surface. Lex discloses the use of a laser beam for illumination the surface to be determined. Chen relates to the manufacturing of light diodes. Consequently, Steenhoek with one or more of Weber, Ohkubo, Klenk, Lex, and Chen do not disclose or suggest present claims 39 and 56.

Independent claim 39 has also been clarified to recite filter means arranged in a light path between said light diode and said at least one photo sensor, where the filter means is "configured to adapt a spectrum such that an aggregate spectrum of said light diode, said at least one photo sensor, and said filter means corresponds to an aggregate of daylight spectrum and eye sensitivity". Similarly, independent claim 56 has been clarified to recite the step of "arranging a filter means in a light path between said light diode and said photo sensor, said filter means filtering said emitted light and/or said reflected light so that an aggregate spectra corresponds to an aggregate of daylight spectrum and eye sensitivity".

Applicants respectfully submit that Steenhoek fails to disclose or suggest filter means in the light path between the halogen lamps and the monochromator.

Further, contrary to the explanations given in the Office Action under item 7, the filters disclosed in Steenhoek and shown for example in Fig. 2 are not arranged in the light path between the halogen lamps and the detecting elements of the monochromator. Instead, the filters 23 shown in Fig. 2 are positioned between the photo sensors 22 of the lamp servo control 25 and the halogen lamps 11 and the filters

23 are only used for the adjustment of the color temperature. Therefore, Applicants submit that the filters of Steenhoek do not filter the light emitted by the halogen lamps which hits the surface to be determined and, thus, fails to disclose or suggest the filter means recited by claims 39 and 54.

Moreover, Applicants submit that the proposed combinations of Steenhoek with one or more of Weber, Ohkubo, Klenk, Lex, and Chen also fails to disclose or suggest present claims 39 and 56.

Further, independent claim 39 recites a light diode emitting an emitted light at the surface. Similarly, independent claim 56 recites the step of controlling a light diode to emit an emitted light at the surface.

Applicants maintain the traversal of the Office Actions' assertion that the halogen lamps of Steenhoek suggest the claimed "light diode".

Applicants respectfully submit that there is no hint or suggestion in Steenhoek, alone or in combination with the cited references, to replace the halogen lamps with light diodes as claimed.

Steenhoek discloses the need for color temperature adjustment means. Such a temperature adjustment means is necessary only when halogen lamps are used since the emitted light from such halogen lamps has to be adjusted during their use since the halogen lamps become warm during the measurement.

In fact, Steenhoek specifically discloses that "[I]n order for the measurement technique employed in this device to work properly it is necessary that the lamps operate at a fixed color temperature as will be discussed below". See col. 6, lines 5-10. Further, Steenhoek discloses that:

"[A]s mentioned above, for proper operation of the colorimeter, the illumination source lamps 11a, 11b, and 11c operate at a fixed color temperature. Since the lamps are turned on only for a few seconds each per measurement, time is

insufficient to allow the lamps to "warm up" to equilibrium in order to achieve consistent color-temperature. Thus the lamps, as schematically shown in FIG. 2, are controlled by an active feedback circuit. Each source lamp 11a, 11b, and 11c is monitored by two photodiodes 22. A blue filter 23a is placed in front of one photodiode and a red filter 23b is placed in front of the other. Each of these diodes produces a voltage signal which is proportional to the lamp emission in the blue and red regions of the spectrum, respectively. The control circuit as schematically designated by block 25, adjusts the lamp current to maintain a fixed ratio between the output voltages of the two diodes, thus maintaining a fixed color temperature." See col. 6, line 55 through col. 7, line 5.

Thus, Steenhoek discloses that it is necessary to operate at a fixed color temperature and therefore discloses a control circuit, which is necessary to maintain this fixed color temperature.

Modification that renders apparatus unsuitable for its intended purpose cannot be said to have been obvious to one of ordinary skill in the art. See *Ex parte Rosenfeld*, 130 USPQ 113, 115 (Bd. App. 1961).

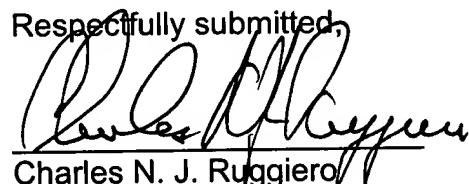
Applicants submit that modifying the halogen lamps of Steenhoek to light diodes as claimed would render the control circuit of Steenhoek unsuitable for its intended purpose. As such, Applicants submit that the modification proposed by the Office Action cannot be said to render claims 39 and 56 obvious to one of ordinary skill in the art.

In view of the above, Applicants submit that, in order to modify the proposed references to result in the invention now recited by claims 39 and 56, one skilled in the art would have had to change not only the use of a light diode, instead of a halogen lamp, but also the entire arrangement and function of the device disclosed in Steenhoek.

As such, independent claims 39 and 56, as well as claims 45-55, 57, and 60-72 that depend therefrom, are believed to be in condition for allowance. Reconsideration and withdrawal of the rejections are respectfully requested.

Accordingly, it is respectfully submitted that the present application is in condition for allowance. Such action is solicited.

If for any reason the Examiner feels that consultation with Applicants' attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below.

Respectfully submitted,


Charles N. J. Ruggiero
Reg. No. 28,468
Attorney for Applicant(s)
Ohlandt, Greeley, Ruggiero & Perle, L.L.P.
One Landmark Square, 10TH Floor
Stamford, CT 06901-2682
(203) 327-4500
(203) 327-6401

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